

WHAT IS CLAIMED IS:

1. Immunomodulator which comprises an antigen-presenting- cell (APC) targeting molecule coupled to an immunomodulatory antigen, wherein said APC-targeting molecule mimics a superantigen but does not include a fully functional T-cell receptor binding site.

2. Immunomodulator which comprises an antigen-presenting cell (APC) targeting molecule coupled to an immunomodulatory antigen, wherein said APC-targeting molecule is a molecule which is structurally a superantigen but for a disrupted T-cell receptor binding site such that the molecule has little or no ability to activate T-cells.

~~3. An immunomodulator according to claim 1 or claim 2, wherein the T-cell receptor binding site, or at least a part thereof, of the antigen-presenting- cell (APC) targeting molecule has been modified by substitution or addition.~~

~~4. An immunomodulator according to claim 1 or claim 2, wherein the T-cell binding site of the antigen-presenting cell (APC) targeting molecule has been deleted.~~

~~5. An immunomodulator according to any one of claims 1 to 3, wherein the antigen-presenting cell (APC) targeting molecule is derived from *Staphylococcus aureus* and/or *Streptococcus pyogenes*.~~

6. An immunomodulator according to claim 5, wherein antigen-presenting cell (APC) targeting molecule is derived from SPE-C, SMEZ and/or SEA.

7. An immunomodulator according to claim 6, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A as herein defined.

8. An immunomodulator according to claim 6 or claim 7, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A R181Q.

9. An immunomodulator according to any one of claims 6 to 8, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q.

10. An immunomodulator according to any one of claims 1 to 9, wherein the antigen-presenting cell (APC) targeting molecule is coupled reversibly to an immunomodulatory antigen.

11. An immunomodulator according to any one of claims 1 to 10, wherein the immunomodulatory antigen is a protein, a polypeptide and/or a peptide.

12. An immunomodulator according to any one of claims 1 to 10, wherein the immunomodulatory antigen is a nucleic acid.

13. An immunomodulator according to any one of claims 1 to 12, wherein the immunomodulatory antigen is non-immunogenic when not coupled to the antigen-presenting cell (APC) targeting molecule.

14. An immunomodulator according to any one of claims 4 or 10 to 13, wherein the antigen-presenting cell (APC) targeting molecule is SPEC (-20-90).

15. Pharmaceutical composition comprising an immunomodulator according to any one of claims 1 to 14 and a pharmaceutically acceptable carrier, adjuvant, excipient and/or solvent.

16. Vaccine comprising an immunomodulator according to any one of claims 1 to 14.

17. Method of therapeutic or prophylactic treatment of a disorder which requires the induction or stimulation of the immune system, comprising the administration to a subject requiring such treatment of an immunomodulator according to any one of claims 1 to 14, of a pharmaceutical composition according to claim 15 or of a vaccine according to claim 16.

18. A method according to claim 17, wherein the disorder is selected from the group consisting of bacterial, viral, fungal or parasitic infection, autoimmunity, allergy and/or pre-neoplastic or neoplastic transformation.

19. Use of an immunomodulator according to any one of claims 1 to 14 for the preparation of a medicament for the therapeutic or prophylactic treatment of a disorder which requires the induction or stimulation of the immune system.

20. Use according to claim 19, wherein the disorder is selected from the group consisting of bacterial, viral, fungal or parasitic infection, autoimmunity, allergy and/or pre-neoplastic or neoplastic transformation.

21. Method of preparing an immunomodulator comprising the steps of:

(a) introducing a modification and/or a deletion into the T-cell binding site of an antigen-presenting cell (APC) targeting molecule which is structurally a superantigen, and

- (b) coupling thereto and immunomodulatory antigen.

22. A method according to claim 21, wherein the antigen-presenting cell (APC) targeting molecule is selected from the group of SPE-C, SMEZ and SEA.

~~23. A method according to claim 21 or claim 22, wherein the antigen-presenting cell (APC) targeting molecule is SPE-C Y15A R181Q~~

24. A method according to any one of claims 21 to 23, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q.

25. A method according to claim 21 or claim 22, wherein the antigen-presenting cell (APC) targeting molecule is SPEC (-20-90).

26. Method of increasing antigenicity of a compound, comprising the coupling of said compound to an antigen-presenting-cell (APC) targeting molecule, wherein said APC-targeting molecule mimics a superantigen but does not include a fully functional T-cell receptor binding site.

27. A method according to claim 26, wherein said APC-targeting molecule is a molecule which is structurally a superantigen but for a disrupted T-cell receptor binding site such that the molecule has little or no ability to activate T-cells.

28. A method according to claim 26, wherein the T-cell receptor binding site, or at least a part thereof, of the antigen-presenting-cell (APC) targeting molecule has been modified by substitution or addition.

29. A method according to claim 26, wherein the T-cell binding site of the antigen-presenting cell (APC) targeting molecule has been deleted.

~~30. A method according to any one of claims 26 to 29, wherein the antigen-presenting cell (APC) targeting molecule is derived from *Staphylococcus aureus* and/or *Streptococcus pyogenes*.~~

31. A method according to claim 30, wherein antigen-presenting cell (APC) targeting molecule is derived from SPE-C, SMEZ and/or SEA.

32. A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A as herein defined.

33. A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A R181Q.

34. A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q

35. A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is SPEC (-20-90).

~~36. A method according to any one of claims 26 to 29, wherein the antigen-presenting cell (APC) targeting molecule is coupled reversibly to said compound.~~

37. A method according to any one of claims 26 to 29, wherein the compound is selected from the group consisting of a protein, a polypeptide and/or a peptide, a carbohydrate or a nucleic acid.

38. *AB* A method according to any one of claims 26 to 29, wherein the compound is non-immunogenic when not coupled to the antigen-presenting cell (APC) targeting molecule.

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